REMARKS

Claims 1, 6, 9-11, 13, 14, 19, 20, 22 and 24-31 are pending in the above-identified application. Claim 1 has been amended by inserting claims 21 and 23 thereinto. Support for these features is found in the first full paragraph at page 22 of the specification.

It is respectfully requested that the above-noted changes to claim 1 be entered of record under 37 CFR 1.116(b), since these changes do not raise significant new issues in that the features of claims 21 and 23 have previously been considered. Further, the insertion of these features into claim 1 at least places claim 1 into better form for consideration on appeal, should an appeal be necessary.

Request for Initialed IDS Form

It is requested that the Examiner provide a copy of the initialed PTO-1449 form corresponding to the Information Disclosure Statement filed April 23, 2004.

Issues under 35 USC 103(a)

Claims 1, 6, 9-11 and 19 have been rejected under 35 USC 103(a) as being unpatentable over Kaido '123 (USP 6,136,123) in view of Kotani '560 (USP 5,700,560) or Kotani '093 (USP 3,316,093) and further in view of Feeney '598 (WO 98/56598).

It is respectfully submitted that the above-noted rejection has been overcome, since claim 1 has been amended so as to incorporate the subject matter of previous claims 21 and 23 which were not rejected based on the specific combination of references cited above. Thus, it is requested that the above rejection be withdrawn.

Claims 13, 14, and 20-31 have been rejected under 35 USC 103(a) as being unpatentable over Kaido '123 in view of at least one of Kotani '560 or Kotani '093 and Feeney '598, and further in view of Kresge '372 (USP 5,576,372) and Hopkins '948 (US 2001/0009948).

The rejection indicated immediately above is respectfully traversed based on the following reasons.

Present Invention and Its Advantages

The present invention, as recited in independent claims 1 and 24, is directed to a tubeless tire having a gas barrier layer and an inner liner layer, wherein the inner liner layer is formed from a rubber composition that contains an inorganic filler represented by the formula $nM \cdot xSiOy \cdot zH_2O$. Employment of this type of inner liner layer advantageously results in properties including adequate adhesion to the gas barrier layer which results in an advantageous rate of decrease in pressure after machining, as well as an advantageous appearance exhibited by the gas barrier layer. The employment of this type of inner linear layer also advantageously provides for adequate adhesion of the carcass layer to the gas barrier layer which provides for advantageous tire durability.

In order to further evidence the advantageous properties exhibited by the tire structure of the present invention, submitted with this Amendment is a Declaration under 37 CFR 1.312 (hereinafter the "Muraoka Declaration"). As shown in the Muraoka Declaration in Table C, Experimental Examples 1-6 in which rubber compositions J to O containing silica as the inorganic filler exhibit advantageously overall improved properties with regard to the rate of decrease in pressure after machining and the appearance of the gas barrier layer, in contrast to comparative Experimental Examples 7-12 which employ rubber compositions J' to O' that contain no inorganic silica filler. In addition, as shown in Table D of the Muraoka Declaration, Experimental Examples 13 and 14 employing rubber compositions U and W that contain the inorganic silica filler of the present invention exhibit, on balance, overall advantageously tire durability properties, rate of decrease in pressure after machining properties, and gas barrier layer appearance properties, in contrast to comparative experimental examples 15 and 16 employing rubber composition U' to W' that contain no inorganic silica filler.

Distinctions over Cited References

Kaido '123, Kotani '560, Kotani '093 and Feeney '598 all fail to disclose or suggest the employment of an inner liner layer or carcass layer containing the inorganic filler of the present invention as defined in the present claims. All of these references also fail to recognize or address the issues concerning improved adhesion to a gas barrier layer, which issues are addressed and advantageously improved by employment of the inorganic filler in the tire of the present invention as recited in the present claims. Consequently, significant patentable distinctions exist between all of the present claims and each of these references.

Kresge '372 discloses a composition for tire inner liners, which includes a layered silicate compound. As noted at column 2, line 62 to the bottom of column 4, the inner liner composition preferably includes a complex rubber formed from a "reactive" rubber and the layered silicate compound, as well as a "solid" rubber. Examples of the reactive rubber are provided at column 3, line 42 to column 4 line 13. Examples of the solid rubber are provided at column 4, line 32-41.

Hopkins '948 discloses an elastomeric butyl compound combined with a mineral filler to form a composition used to make tires. Halogenated butyl elastomers are preferably used in the described compositions.

Both Kresge '372 and Hopkins '948 fail to disclose or suggest a tire structure having a gas barrier layer formed on an inner face of an inner liner layer or carcass layer as in the present invention. Both Kresge '372 and Hopkins '948 fail to address issues concerning the adhesion of an inner linear layer or carcass to a gas barrier layer, which issues are both addressed and resolved by employing the inorganic filler used in the present invention as defined by the present claims. Therefore, significant patentable distinctions exist over both the Kresge '372 and Hopkins '948 references.

In addition to the above, it is submitted that the above-noted references can not be combined as suggested in the Office Action. For example, Kaido '123 fails to disclose or

mention anything regarding any of the: (i) dispersed exfoliated layered filler and surfactant required in the composition of Feeney '598; (ii) layered silicate component required in the composition of Kresge '372; or (iii) mineral filler compound described at paragraphs [0019]-[0020] of Hopkins '948. None of the examples of Kaido '123 include any of these compounds which are all required for the other references. In addition, all of Feeney '598, Kresge '327 and Hopkins '948 fail to disclose or suggest the use of a tire inner liner which includes polyamide resins, PVA or EVOH, among other potential resins used in the thermoplastic film disclosed by Kaido '123. Thus, these references can not be combined as asserted.

It is additionally submitted that both Kotani '560 and Kotani '093 relate to gas barrier resin compositions used for the preservation of foods in contrast to the tire applications addressed by the other cited references, such that the Kotani references cannot be combined with any of the other references unless this clear inconsistency is resolved. In this regard, note column 1, lines 21-29 and column 11, lines 17-28 of Kotani '560, as well as column 1, line 18-25 and column 19, line 21 to column 20, line 28 of Kotani '093. None of the applications mentioned in these portions of these references included a gas barrier layer disposed on an inner face of a tire body as in the present invention. In fact, Kotani '560 and Kotani '093 describe applications far removed from that of the tire of the present invention such that these references can not be combined with any of the other references discussed above that relate to tires and/or tire inner linear applications. The latest Office Action fails to identify a basis for one skilled in the art to ignore the clear differences between addressing food packaging and storage issues versus addressing tire durability and performance property issues. Consequently, significant patentable distinctions exist between the present invention and Kotani '560 and Kotani '093 references whether taken alone or improperly combined with the other cited references.

It is submitted for the reasons stated above that all the presently pending claims define patentable subject matter such that the present application should be placed into condition for allowance. It is requested that all of the outstanding rejections be withdrawn.

If any questions arise in the above matters, please contact Applicant's representative, Andrew D. Meikle (Reg. No. 32,868), in the Washington Metropolitan Area at the phone number listed below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.147; particularly, extension of time fees.

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Respectfully submitted,

By _____
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Enclosures: Muraoka Declaration under 37 CFR 1.132